

REMARKS

Upon entry of this Response, claims 1-5 are pending, of which claim 1 is independent. Claim 1 is amended. Claim 5 is added. Support for the amendments to claim 1 and new claim 5 can be found throughout the Specification and at least at page 10, line 24 – page 11, line 23 and Figure 6. No new matter is introduced. Applicants respectfully submit that the pending claims define over the art of record.

Objections to the Specification

The Examiner objects to the Specification because at page 5, lines 3-5, certain phrases such as “auxiliary unit” are repeated with the second instance directly following the first but enclosed in parentheses. The Examiner indicates that the repeated phrases appear to be redundant.

Applicants amend the Specification at page 5, lines 3-5, to delete the redundant phrases as illustrated above. Applicants believe that the amendments address the Examiner’s concerns. Accordingly, Applicants respectfully request the Examiner to reconsider and withdraw the objection to the Specification.

Rejection of Claims under 35 U.S.C. § 103

Claims 1-4 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,378,637 to Ono et al. (hereafter “Ono”) in view of U.S. Patent Publication No. 2003/0070858 to Kondo (hereafter “Kondo”).

According to the vehicle mounting structure for a fuel cell system of the claimed invention, the fuel cell can be reliably supported using the first pair of brackets and the second pair of brackets. The first pair of brackets (longitudinally arranged brackets) sandwich the fuel cell unit in the longitudinal direction of the vehicle for attaching the fuel cell unit to the first pair of the cross members. The second pair of brackets (laterally arranged brackets) sandwich the fuel cell unit in the width direction of the vehicle for attaching the fuel cell unit to the pair of floor frames. Accordingly, the fuel cell unit and the fuel cell auxiliary unit are prevented from being damaged during vehicle collision or the like, and safety performance during a collision is

improved. The lengths of pipelines for reactions gases and pipelines for cooling medium, which are disposed between the fuel cell unit and the fuel cell auxiliary unit, are minimized, and space for installing a fuel cell system on a vehicle is saved.

Applicants respectfully submit that the cited references, alone or in any reasonable combination, do not teach or suggest *a first pair of brackets sandwiching the fuel cell unit in the longitudinal direction of the vehicle, and attaching the fuel cell unit to the first pair of the cross members*, as recited in Applicants' amended claim 1.

The Ono reference teaches an automobile body 11 having two longitudinally extending frames 14 spaced apart from each other along the width of the vehicle. The two frames 14 lie in a parallel and transversely spaced apart relation to each other. *See* Col. 3, lines 48-52. The components of the fuel cell system are installed longitudinally as follows: the fuel tank 1 is installed in the rear portion of the automobile body 11. The fuel reformer 2 is installed forwardly of, and adjacent to the fuel tank 1. The condenser 8 is installed on the top of the reformer 2. The fuel cell 3 is installed forwardly of, and adjacent to the fuel reformer 2. The electrical energy storage 7 is installed forwardly of, and adjacent to the fuel cell 3. *See* Col. 3, line 62 – Col. 4, line 7 and Figure 2.

However, as indicated by the Examiner, the Ono reference does not teach that fuel cell unit and the auxiliary unit are each sandwiched from both sides in the longitudinal direction of the vehicle by two or more cross members provided in a width direction of the vehicle and connected to floor frames. Since the Ono reference is silent about vehicle frame cross members, the Ono reference cannot teach or suggest *a first pair of brackets sandwiching the fuel cell unit in the longitudinal direction of the vehicle, and attaching the fuel cell unit to the first pair of the cross members*, as recited in Applicants' amended claim 1.

The Examiner refers to the Kondo reference for the teaching of the cross members provided in a width direction of the vehicle.

The Kondo reference teaches vehicle cross members 43. The vehicle cross member 43 is located farther from the cabin 36 than the fuel cell stack 23. The vehicle cross member 43 extends in the right-and-left direction of the vehicle and is fixed to the vehicle side member 42 at opposite ends of the vehicle cross member 43. The vehicle cross member 43 is provided at a position close to the fuel cell stack 23. In the case where the fuel cell stack 23 is disposed in the

front compartment 34, the vehicle cross member 43 is provided in front of the fuel cell stack 23. In the case where the fuel cell stack 23 is disposed in the rear compartment 35, the vehicle cross member 43 is provided at a rear of the fuel cell stack 23. *See [0032] and Figure 3.*

Even though the Kondo reference teaches vehicle cross members 43 provided on each side of the fuel cell stack 50, the Kondo reference, alone or in any reasonable combination with the Ono reference, does not teach or suggest *a first pair of brackets sandwiching the fuel cell unit in the longitudinal direction of the vehicle, and attaching the fuel cell unit to the first pair of the cross members*, as recited in Applicants' amended claim 1. In fact, the Kondo reference only teaches mounts 45 that attach the fuel cell stack 50 to the longitudinal side members 42. In the Kondo reference, the fuel cell stack 50 is not attached to the cross members 42. Hence, in the Kondo reference, the fuel cell stack is not reliably supported and hence, the fuel cell stack is not prevented from being damaged during vehicle collision or the like.

In light of the foregoing amendments and arguments, Applicants respectfully submit that the Kondo and Ono references, alone or in any reasonable combination, do not teach or suggest each and every element of Applicants' amended claim 1. Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claim 1 under 35 U.S.C. §103(a).

Claims 2-4 depend from claim 1 and add separate and patentable limitations to claim 1. As such, for this and the reasons set forth above, Applicants respectfully submit that the dependent claims also define over the art of record.

Patentability of New Claim 5

New claim 5 depends from claim 1, and is therefore allowable for at least the reasons described above with respect to claim 1.

Further, new claim 5 recites a vehicle mounting structure for a fuel cell system where the first pair of brackets and the second pair of brackets are configured to be a flange extending from the under cover that covers the bottom portion of the fuel cell unit. As a result, an impact applied to the vehicle from any directions is absorbed by the floor frames and the cross members without transmitting to the fuel cell unit. Thus, the fuel cell can be reliably protected. In addition, the fuel cell unit can be protected from jumping stones, muddy water, etc. because the bottom portion of the fuel cell unit is covered by the cover under cover.

The Ono reference is silent about an under-cover and the first set of brackets attaching the fuel cell unit to the first pair of cross members. Even though the Kondo reference teaches a cover 44 covering the fuel cell stack 23 from a side opposite to the cabin 36 may be provided, since the Kondo reference is silent about *a first pair of brackets attaching the fuel cell unit to the first pair of the cross members*, the Kondo reference does not teach or suggest that the first pair of brackets is *configured to be a flange extending from the under-cover*, as recited in Applicants' new claim 5.

Accordingly, Applicants respectfully request that the Examiner pass new claim 5 to allowance.

CONCLUSION

In view of the above amendment, Applicant believes the pending application is in condition for allowance.

Please charge any shortage or credit any overpayment of fees to our Deposit Account No. 12-0080, under Order No. SIW-103US. In the event that a petition for an extension of time is required to be submitted herewith, and the requisite petition does not accompany this response, the undersigned hereby petitions under 37 C.F.R. § 1.136(a) for an extension of time for as many months as are required to render this submission timely. Any fee due is authorized to be charged to the aforementioned Deposit Account.

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Respectfully submitted,

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